

APPENDIX C7(3): COMMENTS RECIEVED

Comments on Basic Assessment Report
Review period 04 March 2021 – 06 May 2021
(C&RR: Point 1)

Key Stakeholders and Interested & Affected Parties

WIND GARDEN AND FRONTEER
WIND ENERGY FACILITIES
Makana Municipality, Eastern Cape

Review of Heritage Impact Assessments

Prepared for
Richard Summers Inc.

Prepared by
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5 May 2021

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A. BACKGROUND TO THE REVIEW

A review of two Heritage Impact Assessment (HIA) Reports of the proposed Wind Garden and Fronteer Wind Energy Facilities (WEFs) was requested by Richard Summers Inc. Attorneys, acting on behalf of Kwandwe Private Game Reserve. The HIA Reports were prepared by PSG Heritage (Pty) Ltd (March 2021) and form part of the Basic Assessment Reports by Savannah Environmental (Pty) Ltd (March, 2021).

Issues raised by Richard Summers Attorneys, on behalf of their client/s for both wind farms, include the following:

1. Concern that the impacts on landscape and sense of place have not been adequately addressed.
2. Concern that an assessment of heritage impacts and the integration with the Visual Impact Assessment (VIA) is inadequate.

B. PURPOSE OF THE REVIEW

The purpose of this review is to give an independent expert opinion on the adequacy and credibility of the HIA Reports for the two proposed WEF projects, in particular the issues outlined above, and in terms of the following:

1. To identify any gaps, flaws or omissions in the HIA Reports with an emphasis on landscape impacts and impacts on sense of place.
2. To identify whether the analysis of heritage impacts (both direct and cumulative) and the integration with the Visual Impact Assessment (VIA) is adequate.
3. A general assessment as to whether or not the level of information contained in the HIA Reports is sufficient for decision-making purposes.
4. A reasoned opinion as to whether the proposed activity should or should not be authorised based on the heritage impacts.

C. ASSUMPTIONS AND LIMITATIONS

The review did not involve any fieldwork or ground-truthing, and assumed that the HIA Reports would include all the relevant information and baseline studies. The VIA Reports for the two wind farms were briefly reviewed because of their inter-relatedness with heritage issues.

D. DEFINITION OF CULTURAL LANDSCAPE

The most glaring gap in the HIA Reports is the absence of an adequate cultural landscape assessment including an assessment of the impacts (direct and cumulative) of the proposed wind farms on landscape and sense of place. Given the scale and nature of the development, the consideration of landscape issues should be the primary driver of a meaningful and credible heritage assessment. It is held that it is only at this level of assessment that potential “red flags” and “fatal flaws” can be adequately determined.

While the National Heritage Resources Act (Act 25 of 1999; NHRA) does not specifically mention the term “cultural landscape” it is implied in its definition of terms. Section 3 (2) (b) of the NHRA includes “landscapes and natural features of cultural significance” as part of the national estate. The principal heritage resource in question is the landscape on and around the proposed wind farms.

The concept of cultural landscape gives spatial and temporal expression to the processes and products of the interaction between people and the environment. It may thus be conceived as a particular configuration of topography, geology, vegetation, land use and settlement pattern and associations which establishes some coherence of natural and cultural processes.

The concept of cultural landscape has different meanings:

- It can have heritage significance in its own right and be worthy of formal protection under the heritage and/or environmental legislation.
- It can provide the context or setting for a specific heritage resource.
- It can provide an analytical framework within which individual heritage resources are embedded and linked (visually-spatially, thematically, temporally).

These definitions imply much wider considerations are required for a credible heritage assessment than the predominant focus on an assessment of individual structures older than 60 years, burials grounds and graves, which are the primary focus of the HIA Reports under review. Notwithstanding the fact that the HIA Reports identify the cultural landscapes affected by the proposed development as having medium to high heritage significance, they do not adequately address the concept of cultural landscape as set out above.

E. REQUIREMENTS OF THE HIA REPORTS

The Environmental Impact Assessment (EIA) Regulations (GNR 326 of 4 December 2014, as amended 7 April 2017, Appendix 6) include a checklist for the content of specialist reports. Of relevance to this review are the following requirements:

- Description of impacts on the site, cumulative impacts of the proposed development and levels of acceptable change.
- Identification of the sensitivity of the site related to the proposed activity.
- Identification of 'no-go' areas to be avoided including buffers.
- Map superimposing the proposed activity on the (heritage) sensitivities of the site including areas to be avoided and buffers.
- Description of assumptions made and uncertainties or gaps in knowledge.
- Description of the findings and potential implications of such findings on the impact of the proposed activity, including alternatives.
- Mitigation measures for inclusion in the EMP.
- Reasoned opinion as to whether the activity should be authorised and conditions for inclusion in the environmental authorisation.

Notwithstanding the EIA requirements for specialist reports, Section 38 (3) of the NHRA specifies the following minimum requirements for heritage assessments:

- (a) The identification and mapping of all heritage resources in the area affected.
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7.
- (c) an assessment of the impact of the development on such heritage resources.
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development.
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources.
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives.
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.

For an HIA to adequately address landscape issues, the nature and degree of heritage significance and sensitivity of the receiving environment needs to be assessed across different scales of analysis at the regional and local scales, and in terms of the relative intactness, representivity and rarity of the resources. This needs to inform a set of consolidated constraints including no-go areas to inform the layout of the project. This is not done in the BA Reports or the HIA Reports.

F. COMMENTS ON THE FINDINGS OF THE HIA REPORT

The conclusion of both HIA Reports is the following:

“The proposed location of the turbines, overhead power lines and sub-stations...have been negotiated with specialist input with the developer and the client. This has led to an acceptable placement of turbines (and associated infrastructure) away from heritage sensitive areas. The overall impact...on heritage resources identified during this report is seen as acceptably low after the recommendations have been implemented and therefore, impacts can be mitigated to acceptable levels allowing for the development to be authorised” (PSG Heritage 2021: 89; PSG Heritage 2021:84).

This conclusion is questioned for a number of reasons:

- The identification and mapping of sensitive heritage areas is limited to individual heritage resources (historical structures, burial grounds and graves).
- There is an inadequate identification and mapping of landscape resources and constraints. The totality of the cultural landscape is identified in the HIA Reports as having medium to high heritage significance. However, the nature and degree of significance in terms of the NHRA criteria have not been unpacked and spatialised at the regional and local landscape scales.
- There are obvious omissions in the cultural landscape assessment including *inter alia* the identification and mapping of scenic routes, the settings of significant homesteads (WEF1-04 and WEF2-01), the assessment of impacts on special landscape features, and the wilderness qualities of protected natural landscapes (e.g. Kwandwe Private Nature Reserve and other formally protected areas).
- There is minimal integration of the HIA and the VIA at an analytical level which is a serious flaw given that the heritage impacts in this instance are largely of a visual nature. The identification of sensitive visual receptors and the selection of viewpoints in the VIA must clearly include heritage resources.

- The HIA (and the VIA) rely heavily on the location of the projects in the Cookhouse Renewable Energy Development Zone (REDZ) and do not clarify that the entire REDZ is not necessarily suitable for this type of development due to the fact that the REDZ are classified as high visual sensitivity.
- The no-go buffer areas are limited to 500m around the significant homesteads and 30m around burial grounds and grave sites only. There is an absence of no-go buffer areas around visually sensitive landscape features and areas. The reason for the failure to include buffer areas is not explained.
- Mitigation measures at a cultural landscape level are cursory with the admission that given the large size of the turbines no mitigation is possible. This is of course not correct. Mitigation and avoidance is possible through removal and placement of turbines but the consultants have elected not to consider this. The reason for this is not explained. The HIA Report simply relies on the VIA mitigation measures with no attempt to screen, remove or relocate turbines. The preferred mitigation of avoiding no-go areas and areas of high visual sensitivity is not considered. This is a serious concern.
- There is no evidence to demonstrate how the HIA process has informed the preferred layout in terms of combined visual and heritage sensitivity mapping and identification of no-go buffer areas. The underlying information relating to screening or how this was implemented is not provided.

G. ADDITIONAL COMMENT ON THE HIA REPORTS

Numerous omissions in the HIA Reports have been identified and are expanded on as follows:

- The reports include the definition of numerous cultural landscape terms ranging from a “sense of place” and the “perceptual qualities” of a landscape to the distinction between landscape types, landscape character areas and character forming elements. It is curious that the use of this terminology does not translate into the cultural landscape assessment including the identification and mapping of heritage resources at various scales which is entirely absent. A contributing factor is perhaps the definition of the “study site” which is limited to the area within the boundaries of the proposed development as opposed to defining this as the receiving environment which by nature transcends cadastral boundaries of the proposed development at a regional and local scale.

- A further material omission from the cultural landscape assessment is the identification and mapping of scenic routes, although included in the definition of cultural landscape terms to include scenic drives, hiking trails, horse-riding trails and 4x4 trails.
- The Historical Background of the Makhanda (Grahamstown) region reflects some important heritage themes including *inter alia* its role in the Eastern Colonial Frontier as a landscape of colonial settlement and Xhosa resistance. It is this type and level of landscape assessment emerging from an understanding of the historical evolution of place that is missing in the HIA reports. Instead, the concluding statement of the HIA Reports is that “*Archival and Historical Research has revealed that Grahamstown has a history of occupation*” is meaningless and vague (PSG Heritage 2021: 24; PSG Heritage 2021: 22).
- The heritage sensitivity mapping is derived from a desktop study of satellite images and topographical maps and fieldwork. Significant features assessed include two homesteads (WEF1-04 and WEF2-01) of suggested Grade IIIA and IIIB heritage value, respectively. They also include burial grounds and graves (EWF1-10, EWF1-11, EWF1-12 and EWF2-05) of suggested Grade IIIA heritage value. Little site-specific information is provided with regard to the age of structures with the information being limited to whether they are older than 60 years, which in itself does not automatically assign heritage value.
- The identification of a no-go buffer area of 500m from significant homesteads (EWF1-04 and EWF2-01) is recommended. Notwithstanding the fact that a 500 m buffer is unlikely to make substantial difference in terms of visual impacts on the setting of these homesteads, additional mitigation measures are also vague and meaningless. The HIA Reports go on to state that should development occur within 500m of these homesteads, they need to be “*satisfactorily studied and recorded before impact occurs*” (PSG Heritage 2021:81; PSG Heritage 2021:66). It further recommended in the HIA Reports that a baseline heritage report be prepared to be included in a Heritage Management Plan to determine unforeseen impacts on heritage resources. This recommendation is seriously questioned given that such baseline information needs to be determined upfront as part of an HIA in order to inform a decision whether the proposed development should or should not be authorised based on heritage impacts.
- The reference to cultural landscape issues is cursory with limited consideration of landscape significance and impacts. For ease of reference an extract of the cultural landscape assessment on both HIA reports is attached as Addendum B. While the cultural landscape is ascribed as medium to high heritage significance, the information is generally

descriptive with an absence of analytical and spatial information at various scales to support significance.

- Reference is made to the cultural landscape comprising numerous heritage sites including palaeontology, archaeology, rock art, burial grounds and graves, monument and memorials and historical structures ranging from Grade III C to Grade II heritage value. However, there is an absence of heritage significance being ascribed to the totality of the landscape including sense of place qualities.
- While reference is made to several nature reserve and game reserves in the surrounding area of the proposed study area including the Kudu Nature Reserve, Buffalo Protected Environment, Kwandwe, Phumba and Shamwari Game Reserves, the heritage significance of these landscape is not taken further in terms of the wilderness landscape qualities and sense of place. An obvious omission in this regard is the cursory reference to Kwandwe Private Game Reserve located to the north east of Wind Garden and immediately adjacent to Fronteer Wind Farm and which has protected area status. No reference is made to the fact that a large component this wilderness landscape will be affected by the proposed wind farms. This is a curious omission which is nowhere explained.
- The heritage impact of the proposed development on the overall cultural landscape is considered in the HIA Reports to be medium negative (before mitigation) and low negative (after mitigation). However, there is insufficient information to substantiate this finding or to demonstrate impacts before and after mitigation. Furthermore, it is totally unclear how the recommended mitigation measures will be effective as they are too general and vague. The issue of landscape impact is unresolved.
- In this regard, it is stated that while no mitigation of the impact on sense of place of the regional or the cultural landscape is possible, the impact of the development on the cultural landscape can be minimised in terms of the following:
 - (a) Mitigation measures to reduce negative impacts on land use patterns and living heritage.
 - (b) The availability of a detailed and comprehensive regional dataset on cultural landscapes to improve the accuracy of impact assessment ratings and effectiveness of mitigation measures.

- (c) The mitigation measures for individual heritage resources will reduce the cumulative impacts on the cultural landscape.
- (d) According to the VIA no impact on the sense of place of the region is possible as the structures will be visible regardless. However, the following mitigation measures are proposed.
- The natural vegetation outside all areas of the development footprint/servitude must be maintained/re-established during the planning process.
 - Maintain the general appearance of the facility as a whole during the operational phase.
 - Remove the infrastructure not required for post-decommissioning use and rehabilitate all areas.
- As previously stated in this review, it is not correct that the visual impact of wind turbines cannot be mitigated. They can be mitigated by removal and relocation.
 - Mitigation measures identified in the HIA Reports tend to be of a minor cosmetic or remedial nature. Given the medium to high heritage significance of the cultural landscape affected by the developments, more convincing and meaningful mitigation measures relative to acceptable levels of impact need to be provided. This would typically include the avoidance of certain visually sensitive areas and the relocation and removal of turbines in visually sensitive positions.
 - The issue of cumulative impacts is not adequately addressed. It is merely stated considering these two adjacent WEF projects and the other WEF projects in the broader Makhanda (Grahamstown) region, cumulative impacts on historical structures, burial grounds and graves and palaeontological resources will have a medium to high negative impact before mitigation and low negative impact after mitigation. No specific mitigation measures relating to cumulative impacts are provided. The assessment of cumulative heritage impacts is not clearly represented in the form of a wider regional map of the area.
 - The HIA Reports do not adequately address heritage impacts relative to social-economic benefits. Give the location of the WEF project in relation to Kwandwe Private Nature Reserve and its role in eco-tourism, this is regarded as a significant omission.
 - The HIA Reports do not integrate important visual information including significant viewpoints and accompanying visual simulations from heritage resources (before and after mitigation).

H. CONCLUSIONS AND RECOMMENDATIONS

The HIA Reports contain too many gaps in the information to warrant an informed recommendation regarding the acceptability of the two proposed wind farms from a heritage perspective.

The most glaring gap is an adequate cultural landscape assessment including an assessment of the impacts (direct and cumulative) of the proposed wind farms on landscape and sense of place. Notwithstanding the identification of medium to high heritage impacts at a cultural landscape level, the mitigation measures identified are vague and meaningless thus unlikely to result in an acceptable low heritage impact after mitigation.

In summary:

- The impacts on landscape and sense of place have not been adequately addressed.
- An assessment of heritage impacts and the integration with the VIA is inadequate.
- The level of information in the HIA Reports is insufficient for decision-making purposes.

Based on the findings of this review, and the fact that they do not meet all the requirements of NEMA and the EIA regulations, and the requirements of Section 38 (3) of the NHRA, the HIA Reports are considered flawed. It is therefore recommended that the HIA Reports in their current form be set aside until the omissions are corrected.

REFERENCES

Logis, March 2021. *Proposed Fronteer Wind Farm, Eastern Cape Province: Visual Impact Assessment.*

Logis, March 2021. *Proposed Wind Garden Wind Farm, Eastern Cape Province: Visual Impact Assessment.*

CSIR, 2015. *Strategic Environmental Assessment for Wind and Solar Photovoltaic Energy in South Africa*, prepared for Department of Environmental Affairs.

PGS Heritage, March 2021. *Wind Garden Wind Farm between Makhanda and Somerset East, Eastern Cape.*

PGS Heritage, March 2021. *Fronteer Wind Farm between Makhanda and Somerset East, Eastern Cape.*

Savannah Environmental, March 2021. *Fronteer Wind Farm, Eastern Cape Province: Basic Assessment Report.*

Savannah Environmental, March 2021. *Wind Garden Wind Farm, Eastern Cape Province: Basic Assessment Report.*

Winter, S. and Baumann, N. 2005 *Guideline for involving heritage specialists in EIA processes: Edition 1*. CSIR Report No ENV-S-C 2005 053 E. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town

ADDENDUM A:

Declaration of Independence:

Sarah Winter declares that she is an independent heritage practitioner with expertise and experience in heritage impact assessments and that the review has been carried out in an objective manner. She has no interest, be it business, financial, personal or other, in the proposed Wind Garden or Fronteer Wind Energy Facilities other than fair remuneration for professional work performed in connection with a review of the Heritage Impact Assessments for these projects.

Expertise:

Name	Qualification	Professional Accreditation	Years of Experience
Sarah Winter	BA Archaeology and Anthropology (UCT) 1989 Master of City and Regional Planning (UCT) 1995	Association of Heritage Practitioners (Accredited member)	Heritage practitioner 20 years

Sarah Winter has 20 years of experience as a heritage practitioner with extensive experience in undertaking heritage impact assessments. She co-authored the Department of Environmental Affairs and Development Planning Guidelines for Involving Heritage Specialists in Environmental Impact Assessments (2005). Her specific area of expertise is in cultural landscape assessments undertaken as part of heritage impact assessments, municipal heritage inventories, conservation management plans and planning policy frameworks. She also co-authored the specialist Heritage and Scenic Study for the Western Cape Provincial Spatial Development Framework (2013).

Sarah is a founder member of Association of Professional Heritage Practitioners. She has taught on the Robben Island Museum-University of the Western Cape Heritage and Museum Studies Programme, the University of Cape Town Landscape Architecture Masters Programme and the UCT MPhil in Conservation of the Built Environment Programme.

Sarah served on the Councils of Heritage Western Cape (HWC) (2010 – 2016) and the South African Heritage Resources Agency (SAHRA) (2015 – 2016). She chaired the HWC Built Environment and Landscape Committee (BELCOM) (2010 – 2016) and was a member of the HWC Impact Assessment Committee (IACOM) (2010 – 2013). She is currently a member of the HWC IACOM (2019 onwards).

APPENDUM B: EXTRACT OF CULTURAL LANDSCAPE ASSESSMENT

The Cultural Landscape of the area between and surrounding Makhanda (Grahamstown) and Somerset East is sparsely populated with several farmsteads and their associated structures located on the valley floors of this hilly and mountainous region. The farmsteads are connected through several farm roads and old historic ox-wagon routes that link the local communities to the busy towns of Makhanda (Grahamstown) and Somerset East. The Cultural Landscape of the area proposed for the Fronteer Wind Farm has medium to high heritage significance. Many of the old farm buildings, stone houses and Churches contained architectural elements greater than 60 years and fall within the general protection of the National Heritage Resources Act (25 of 1999) (NHRA).

Historically the region surrounding Makhanda (Grahamstown) and Somerset East has been occupied by pre-colonial farmers and herders as well as European settlers since the 1750s (Booth, 2013). Several structures including forts, signalling towers, monuments and memorials found in this area provide further evidence of the conflicts and wars fought between the British and the Xhosa who occupied the area. The town of Grahamstown (now known as Makhanda) was established as a result of the frontier wars of 1812 (Marchsal, 2008). The Fish river that is located to the east of Grahamstown (Makhanda) was historically the border between the Xhosa and the British (Booth, 2013).

The cultural significance of the area comprises both tangible and intangible heritage. According to SAHRIS there are seventy (70) declared Provincial Heritage Site around Makhanda (Grahamstown), consisting of historical structures and burials grounds, one (1) Provincial Heritage Site in Riebeeck East consisting of the Mooimeisiesfontein Farm, the well-known farm of Piet Retief, and fifteen (15) declared site around Somerset East consisting of historical structures and buildings. Several graded sites of high local heritage significance have also been identified in and around Cookhouse and Makhanda (Grahamstown). These sites include burials sites and graves, monuments and memorials, stone walling, we well as historical structures. These structures speak to the living heritage that it widespread in this cultural landscape. In terms of tangible heritage several historical structures (including churches, farmsteads and stone houses) and burial grounds have been found in the area.

Locally the St Peter's Anglican Church located on the farm Hilton 182 played an important role in the lives of local farmers, as one of the first churches in the area it has been the venue for many events such as baptisms, marriages and funerals. The Hilton homestead, also located on Farm Hilton 182, is one of the few remaining houses in the Eastern Cape, that is

characterised by semi- circular bow-fronts which were the height of architectural fashion throughout the late Georgian period (SAHRIS). Both the St Peter's Anglican Church and the Hilton homestead on the Farm 182 are of high cultural significance as it is rated as a Grade II Provincial Heritage Site.

In terms of intangible heritage, the oral histories, stories, and collective memory of all the communities connected to this area and its built environment becomes relevant.

In addition, several nature reserve and game reserves are located in the surrounding area of the proposed study area including the Kudu Nature Reserve, Buffalo Protected Environment, Kwandwe, Phumba and Shamwari Game Reserves (du Plessis 2021). Through Eco-tourism many of these reserves offer game drives and outdoor activities to their visitors.

Reference:

Wind Garden HIA Report (pages 65 and 66)

Fronteer Wind Farm HIA Report (pages 50 and 51)

EXTERNAL REVIEW DRAFT BASIC ASSESSMENT REPORTS (BARs)

**FRONTEER & WIND GARDEN WIND FARMS
Eastern Cape Province**

April 2021

Prepared by



GLOBAL GREEN

EXECUTIVE SUMMARY

Global Green Environmental Consultants in association with the Environmental Assessment Research Group (EARG) from the North West University (NWU - Potchefstroom campus) was appointed by Richard Summers Inc. to conduct an external review of the Draft Basic Assessment Reports (BARs) for the Fronteer and Wind Garden Wind Farms. The review was conducted by two reviewers according to the NWU EIA Report Quality Review Package to determine the extent to which the reports serve to support reasonable decision making by the competent authority.

Overall the reports achieved an 'E' rating which means that as a whole the content is not satisfactory with the following significant omissions or inadequacies. Moreover, it means that the content cannot support reasonable decision making (that is rational and proportional) by the competent authority as required by relevant legislation:

- *Limited scope of need and desirability evaluation.* The strategic policy and planning context for important sectors in the region such as conservation and tourism are not addressed. Moreover, the SDFs of local municipalities were not considered.
- *Weak consideration of alternatives.* The BAs fail to consider and assess reasonable alternatives. The environmental screening process preceding the BA process produced a largely *fait accompli* proposal that was not assessed in any meaningful way against other alternatives.
- *Weak consideration of mitigation options.* Mitigation is weakly dealt with especially in relation to visual, socio-economic and biodiversity impacts. In particular, opportunities to avoid impacts, through for example limiting the number of turbines and/or the siting of turbines were not seriously considered.

We trust that you find the report in order and thank you for the opportunity to be of service. If there are any uncertainties or additional information required, please feel free to contact the undersigned.



Prof Francois Relief

Lead Reviewer
24-04-2021



Me Charlotte Cilliers

2nd Reviewer
24-04-2021

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DOCUMENT CONTROL			
Project	Fronteer and Wind Garden Wind Farms – External Review		
GG reference ID	RS-29/03/2021	Client	Richard Summers Inc.
Lead reviewer	Prof Francois P Retief	Client Contact	Mr Richard Summers
2nd Reviewer	Me Charlotte Cilliers	Documents Reviewed	Draft Basic Assessment Reports (BAR) – Fronteer and Wind Garden Wind Farms
Date of the Review	29 March – 24 April 2021	Reviewed against	NEMA, EIA Regulations 2014 (as amended 2017) & Reg 114 of 2018

1. INTRODUCTION AND BRIEF

Global Green Environmental Consultants was appointed by Richard Summers Inc. as external reviewer of the Draft BA reports (dated March 2021) for the Fronteer and Wind Garden Wind Farms. The external report review was conducted in collaboration with the Environmental Assessment Research Group (EARG) of the North West University (NWU). Both reports were dealt with in a single review due to their exceedingly high level of similarity, in terms of structure, methodology, results and even wording. We confirm that Global Green and NWU act independently and has no vested interest in the development project under review. External review and specifically report quality review is a particular focus of Global Green and the EARG. The lead reviewer has been co-author of various EIA review reports as well as subsequent peer reviewed scientific papers that include report quality reviews between different South African EIA regimes (Retief et al, 2011; Sandham et al, 2012; Kidd et al, 2018); report quality related to specific industries such as mining (Sandham et al, 2008a) and manufacturing (Sandham et al, 2013), as well as report quality related to specific sectors such as water management (Sandham et al 2008b), biodiversity and conservation (Hallat et al, 2015; Swanepoel et al, 2019; Sandham et al, 2020), biological control (Sandham et al, 2010), etc. More recently a paper was also published on the international conceptualization of EIA quality internationally (Bond et al, 2018).

As an introduction to the review this section briefly introduces the agreed scope of work as well as the individual reviewers involved, namely: Prof Francois Retief and Me Charlotte Cilliers.

1.1 SCOPE OF WORK – REVIEW OF THE DRAFT BA REPORTS

The overall scope of work is specified in a review proposal dated 16 March 2021, and requires the following:

Scope of work:

To conduct an independent external review of the quality of the Draft BA Reports for the Fronteer and Wind Garden Wind Farms against relevant South African legal requirements.

1.2 REVIEWERS

The following two independent reviewers conducted the external review (see Annexure A for CV summaries):

- Prof Francois Retief – NWU and Global Green
- Me Charlotte Cilliers – Global Green

2. EXTERNAL REVIEW METHODOLOGY

Numerous international packages and guidelines have been developed for EIA report quality review. The Lee-Colley package (Lee and Colley, 1992) is probably the most well-known and widely adapted and applied. In terms of South Africa, significant progress has been made to adapt international report review packages to the local context. The review package used for this review is a version of the so-called 'NWU EIA Report Quality Review Package' which has been adapted from the Lee-Colley package and is continually updated for different assessments requirements (such as BA) and as local policy and legislation changes. The most recent version of the package reflects the 2014 EIA Regulations and subsequent 2017 amendments. Different versions of the 'NWU EIA Report Quality Review Package' has been successfully applied to EIA quality review over the years – the results of which have been published in various reports and peer reviewed journals as highlighted in section 1.

The review criteria applied under section 3.2 and summarised in Table 3.2 deal specifically with South African legal requirements for the Draft BA Reports. The review therefore, considers the report content against what the law requires in South Africa, also acknowledging that legal interpretation of some requirements might vary. Ultimately according to South African law the content of the BA Reports must support the relevant authority to make a 'reasonable' decision that is 'rational' and 'proportional' (see Alberts et al, 2020; Retief et al, 2020).

2.1. CONTENT OF THE REVIEW PACKAGE

The 'NWU EIA Report Quality Review Package' is designed as a self-contained package with the following components:

- a list of criteria (grouped under Review Areas) to be used in each report review.
- an evaluation sheet/table on which to record the findings from applying the criteria.

The criteria should reflect the South African EIA System legal requirements and, as far as possible, satisfy the following requirements:

- each should be well defined and unambiguous;
- each should be capable of reasonably consistent and objective application;
- each should serve a distinct purpose different from the purposes of other criteria;
- each should be considered sufficiently important to merit influencing the ultimate assessment of report quality;

- the number of criteria should be as few as possible, consistent with covering all topics identified as essential (judged, in this instance, by reference to the South African legislative requirements).

2.2 APPLYING THE REVIEW PACKAGE

Reports are reviewed independently by at least two reviewers and any differences in the review results should be systematically examined and resolved by them. As already indicated in section 1.2, two reviewers took part in this particular review. The evaluation resulting from applying each criterion is recorded by the reviewers on the evaluation table using a standard list of assessment symbols as described in Table 2.1. ‘Letters’ rather than ‘numbers’ are used as symbols to discourage reviewers from crude aggregation. The evaluation table should not only be used to record the chosen assessment symbols, but also to record, in a brief summary, the principal justification for the evaluation score. This discourages ‘over-mechanical’ reviews.

Table 2.1. List of evaluation symbols

Symbol	Explanation	Implications for decision making
A	Relevant tasks well-performed, no important tasks left incomplete.	These ratings (A-C) mean that the quality of the report content complies with minimum legal requirements and is sufficient to allow the competent authority to make a reasonable decision (that is rational and proportional) in line with the requirements of the Promotion of Administrative Justice Act (PAJA – Act 3 of 2000).
B	Generally satisfactory and complete, only minor omissions and inadequacies.	
C	Can be considered just satisfactory despite omissions and/or inadequacies.	
D	Parts are well attempted but must, as a whole, be considered just unsatisfactory because of omissions or inadequacies.	These ratings (D-F) mean that the quality of the report content does not comply with minimum legal requirements and is insufficient to allow the competent authority to make a reasonable decision (that is rational and proportional) in line with the requirements of the Promotion of Administrative Justice Act (PAJA – Act 3 of 2000).
E	Not satisfactory, significant omissions or inadequacies.	
F	Very unsatisfactory, important task(s) poorly done or not attempted.	
NA	Not applicable. The Review Topic is not applicable, or irrelevant in the context of this report.	

The current version of ‘NWU EIA Report Quality Review Package’ has been extensively tested. The results show a meaningful level of agreement in the assessments made by different reviewers of the same report. The Draft BA Reports were evaluated against review areas and criteria derived from GNR 982 and specifically Appendix 1, that describes the purpose and content requirements. The ultimate aim of the review was to determine to what extent the report provide sufficient information for decision making and if the report complies with legal requirements.

3. REVIEW RESULTS

This section deals with results of the external review for the Fronteer and Wind Garden BA Reports. In line with the methodology described in the previous section the results are presented as ‘main results’ in relation to the different Review Areas (section 3.1) and ‘detailed results’ in terms of the different Review Criteria (section 3.2).

3.1 MAIN RESULTS

Table 3.1 provides a summary of the main review results per Review Area. As already explained the Fronteer and Wind Garden BA Reports were dealt with in a single review due to their high level of similarity, in terms of structure, methodology, results and wording. Based on the results it is concluded that the overall BA Reports achieve an ‘E’ rating which means that as a whole the content is not satisfactory with significant omissions or inadequacies. Moreover, it means that the content cannot support reasonable decision making (that is rational and proportional) by the competent authority as required by the relevant legislation.

Table 3.1: Summary of main review results for the Draft BA Reports

SUMMARY OF REVIEW AREAS		A	B	C	D	E	F
1	General Aspects				X		
2	Need and Desirability					X	
3	Alternatives						X
4	Impact Assessment and Mitigation					X	
5	Environmental Impact Statement				X		
FINAL RATING						X	

3.1.1 Review Area 1: General Aspects

The review results for Review Area 1: General Aspects produced an overall ‘D’ rating (*“Parts are well attempted but must, as a whole, be considered just unsatisfactory because of omissions or inadequacies”*). We base this rating on the following findings:

- **Use of terminology:** Terminology related to the assessments is not well explained. The BAs refer to the ‘project site’, ‘development envelope’ and ‘development footprint’. None of

these concepts are clearly defined. For example, what is a 'development envelope' and how was the boundary determined? The potential impacts of turbines located on the boundary of the envelope surely also need to be considered outside the currently defined envelope. Because the 'development envelope' demarcates and focusses the overall assessment it is important that the concept be defined and the boundary justified.

- **Land use description:** The zoning is indicated as 'agriculture' and the land use as 'grazing'. This is misleading because it is acknowledged in the assessment that the farms typically practice mixed land use, that combine agriculture with for example eco-tourism. The assessment seems to underplay this land use reality. The development will admittedly have limited impact on grazing but could have a significant impact on other land uses such as eco-tourism which has not been adequately assessed. It is therefore required that the land use description be expanded beyond mere 'grazing'.
- **Activity description uncertainties.** The activity is not clearly described with significant uncertainties that need to be clarified. In particular, reference is made to 'private off takers' which is not defined or explained. The reader fails to understand who the generation is bound to benefit – the national grid or specific off takers. If specific off takers, then the beneficiaries must be known and factored into the need and desirability considerations. Moreover, the final turbine capacity and model has not been resolved, which is problematic since this will affect the overall potential benefit to be considered (i.e. total generation) as well as various mitigation options. Working on a maximum capacity might create false expectations and overplay the overall benefit. It might even negate the validity of the overall assessment results.

3.1.2 Review Area 2: Need and Desirability

The review results for Review Area 2: Need and Desirability suggest an overall 'E' rating ("*Not satisfactory, significant omissions or inadequacies*"). The rating score is based on the following limitations:

- **Need and desirability relative to other sectors:** The need and desirability discussion deals almost exclusively with energy generation with scant reflection on other sectors such as tourism and conservation. The need and desirability of the development must also be considered and assessed against other (competing) sectors, which was not done. It is unclear from the assessment what the implications of the proposed developments are for other important economic and employment sectors in the region.
- **Consideration of municipal strategic planning:** Although the municipal IDPs have been considered at a high level, none of the strategic spatial planning instruments such as

municipal and district SDFs have been included. The BAs need to indicate what the SDFs say about the future land use of the region and particular sites.

- **Consideration of strategic conservation planning:** Strategic planning related to conservation and biodiversity protection was not considered as part of the need and desirability considerations for the project. This is particularly important since significant future economic development and tourism potential is locked up in the landscape and biodiversity value of the area. These aspects are also not well considered in the demarcation of the REDZ, which means that the individual assessments within the REDZ need to engage critically with questions around tourism and conservation impacts, and expand the assessments to demonstrate this.

3.1.3 Review Area 3: Alternatives

The review results suggest an overall 'E' rating ("*Not satisfactory, significant omissions or inadequacies*") for Review Area 3: Alternatives. We highlight the following key weaknesses of the Draft BA reports:

- **Failing to deal with fundamental alternatives:** Stating that the BA process does not deal with fundamentally different alternatives because renewable energy is part of South Africa's energy mix implies for example that need and desirability and the no-go option need not be considered. This approach is incorrect and suggests that the proposed development is a *fait accompli* and all the BAs can hope to do is tweak the development proposal. This should be wholly unacceptable to IAPs and decision makers. Why should IAPs bother to partake in the BA process if they cannot hope to affect the most fundamental decision about the acceptability of the overall development.
- **Failing to deal with 'site specific' and 'layout' alternatives:** It is stated that, based on a technical feasibility assessment and an environmental screening process, one specific site has been identified due to its specific characteristics. However, the environmental screening process is poorly explained in the BAR and therefore raises a number of important questions, namely:
 - How are the concepts 'fatal flaws' and 'no-go' areas defined for the purposes of the assessment? The screening relied on the identification of 'fatal flaws' and 'no-go' areas. However, these concepts are not defined or explained – so there is no way of understanding what would qualify as a fatal flaw or a no-go area, and how this influenced the optimised layout. The optimised layout appears to have been informed by the Applicant's preferences.

- How were the optimised layouts derived exactly? The explanation jumps from Figures 3.2 to Figure 3.3 without proper or credible explanation.
 - Was there any public participation during the environmental screening process to inform the number and siting of turbines?
 - Why are two different BAs conducted for what seems to be a single development / layout plan incorporating both the Fronteer and Wind Garden Wind Farm developments?
 - Why was the environmental screening (as per below) not undertaken as part of the BA process in a transparent and accountable manner?
- **Environmental screening:** The development footprint and siting of the turbines were informed by a preceding environmental screening process and not the actual BA process, which is problematic, not least because it undermines the public participation process. The result from the environmental screening process resulted in straight jacketing the BA processes and layout in terms of its scope (i.e. location, design, etc.), and also excluded certain alternative considerations. It is strongly recommended that the environmental screening be described in more detail (possibly in a separate report) to inform the justification for amongst other, the scope of the BAs, as well as the number and siting of the turbines. The BA should then assess for example different alternative numbers and siting options for the turbines – not merely assessing and accepting the outcome from the screening process.

3.1.4 Review Area 4: Significance and Mitigation

The review results suggest an overall 'E' rating (*"Not satisfactory, significant omissions or inadequacies"*) for Review Area 4: Significance and Mitigation. We raise the following important points as particular weaknesses:

- **Biodiversity impacts:** The location of the particular wind farm is not ideal from a biodiversity perspective as borne out by the screening tool (high and very high ratings) as well as the CBA and ESA covering large parts of the site. 'Limits of acceptable change' are set (see for example Table 9.1 in the Fronteer Wind Farm BA) without providing justification for the percentages. How are they derived? It seems obvious that the size of the site (which is meaningless from a biodiversity perspective) will directly influence the percentage change thereby determining its acceptability. As it stands turbines are justified to be placed in CBA and ESA as well as within the 500m wetland regulated zones. SANBI biodiversity offset policy requires no net loss so either avoidance or offset mitigation options should as a minimum be considered here. Avoidance seemed to have been attempted through no-go areas that, according to the reports, should be avoided 'as far as possible'. This is

unconvincing since you either have no-go areas or you don't – you can't be avoiding these areas 'as far as possible'. We conclude that the mitigation hierarchy was not correctly applied.

- **Visual impact mitigation:** The visual impact is determined to be high for various sensitive receptors, most notably protected areas and eco-tourism locations. According to the visual assessment no mitigation is possible. However, it is not clear to what extent avoidance through alternative siting of turbines or the removal of turbines were considered as a first step in mitigation nor the consideration of offsets and compensation as a last option in mitigation. The consideration of mitigation is therefore overall weak and non-compliant with NEMA. Moreover, visual, socio-economic and traffic impacts are not considered as part of the sensitivity analysis because “... *these aspects do not directly influence the placement of infrastructure ...*”. This is irrational – of course visual impact would directly influence the placement of infrastructure – as will the development of roads, etc. Landscape characteristics are some of the high sensitivity features that could be heavily impacted from a visual perspective so how could this not be considered as part of the sensitivity analysis? The methodology is problematic.
- **Sense of place:** The visual assessment results determine that sense of place will not be negatively affected (for example p205 in Frontier BA) while the socio-economic assessment determines that it will be negatively affected (for example p211 in Frontier BA). We are of the opinion that sense of place will most certainly be negatively affected by the development with potentially significant implications for current and future eco-tourism industry in the region. The potential impact has not been accounted adequately or integrated into the findings of the assessment.
- **Socio-economic impacts:** The socio-economic impacts on tourism is not assessed in a meaningful manner that allows for a reasonable decision to be made. It is acknowledged that the eco-tourism industry will be affected but with a low significance rating of 16 (for example p225 in Frontier BA). No reasoned explanation is provided to support this very low significance score which in any event is highly questionable due to the failure to assess the impact on protected areas and tourism. Rather the preceding text as well as the visual impact and sense of place results suggests a potentially much higher significance rating, especially during the operational phase. It would have been prudent to acknowledge and incorporate the internationally research on the impacts of turbines on tourism (see for example Etherington 2010; Jerpasen and Larsen, 2011; Munday et al., 2011; Aitchison, 2012; O’Keeffe and Haggett, 2012; Jaber, 2013; Karydis, 2013; Westerberg, et al., 2013; Reddington et al., 2014; Rudolph, 2014; De Sousa and Kastenholz, 2015; Silva and Delicado, 2017). Even just the perceived visual and sense of place impacts could already be having a negative impact on eco-tourism investment in the area. Clearly developments

of this scale warrants primary data collection and context specific research to scientifically inform our understanding. Furthermore, statements on land values are contradictory i.e. “ ... it can therefore be confidently stated that there will be no long term negative impacts of prices of properties ...” and then the very next sentence “ ... price drops cannot be ruled out altogether.”

- **Dealing with cumulative impacts:** It is unclear how the scope of the cumulative impact assessments was determined. It seems that the impacts identified for the two different BA applications were merely combined as representing the cumulative impacts. This is problematic and does not comply with the EIA Regulations. Which begs the question why two separate BAs were conducted in the first place. If a single BA was to be conducted (i.e. for both Fronteer and Wind Garden), which is what is required by the Regulations, then the cumulative impact scope would have been much different and broader. No justification from an environmental assessment perspective is provided for conducting two separate BAs for directly adjacent developments.

3.1.5 Review Area 5: Environmental Impact Statement

The review results suggest an overall ‘E’ rating (“*Not satisfactory, significant omissions or inadequacies*”) for Review Area 5: Environmental Impact Statement. The impact statement relies on the overall content of the report and therefore the main weaknesses under Review Areas 1 to 4 are transferred and reflected in the review results for Review Area 5. Therefore, the review results for Review Area 5 should be read together with the other relevant Review Areas.

3.2 DETAILED REVIEW RESULTS

This section presents the detailed review results per Review Area and specific criteria for both the Fronteer and Wind Garden BA Reports. Table 3.2 summarises the results and provide brief justification for the review scores. The results reflect the consolidated views of the two reviewers.

Table 3.2: Detailed review results for the Draft Basic Assessment Reports (BAR) (Fronteer and Wind Garden Wind Farms)

Reference	Review Areas and Criteria	Evaluation Symbols							Review Comments and Justification
		A	B	C	D	E	F	N/A	
Review Area 1: General Aspects									
GNR 982 Appendix 1(3)(1)(a)	1.1 Are the details provided of (i) the EAP who prepared the report; and (ii) the expertise of the EAP, including a curriculum vitae?			X					See section 1.3 Not clear from the reports who the leading EAP is – is the 'principal author' of the reports also the leading EAP? A specific individual (EAP) need to be identified as the responsible / liable person for the content of the report.
GNR 982 Appendix 1(3)(1)(b)	1.2 Is the location of the activity provided, including: (i) the 21 digit Surveyor General code of each cadastral land parcel; (ii) where available, the physical address and farm name; (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties?	X							See section 1.2
GNR 982 Appendix 1(3)(1)(c)	1.3 Is a plan provided which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale?				X				See section 1.2 Terminology related to the assessments is not well explained which potentially undermines the public participation process. The BAs refer to the 'project site', 'development envelope' and 'development footprint'. None of these concepts is clearly defined. For example, what is a 'development envelope' and how were the boundaries determined? The potential impacts of turbines on the boundary of the envelope surely need to be considered outside the currently defined envelope. The zoning is indicated as 'agriculture' and the land use as 'grazing'. This is misleading because it is acknowledged in the assessment that the farms typically practice mixed land use, that combine agriculture with for example eco-tourism. The assessment seems to underplay this land use reality. The development will admittedly not significantly influence grazing but could have a significant impact on other land uses which is not adequately investigated.
GNR 982 Appendix 1(3)(1)(d)	1.4 Is a description provided of the scope of the proposed activity, including all listed and specified activities triggered and being applied for; and a description of the activities to be undertaken including associated structures and infrastructure?				X				See Chapter 2 The activity descriptions contain uncertainties and information gaps which are material to the BA process. Most notably, reference is made to 'private off takers' which is not defined or explained. Moreover, the final turbine capacity and model has not been resolved.

						<p>which is problematic since this will affect the overall potential benefit to be considered (i.e. total generation) as well as various mitigation options. This aspect needs to be resolved as it is directly relevant to predicting project impacts with a degree of certainty. Working on a maximum capacity might create false expectations about the overall benefit.</p>
<p>GNR 982 Appendix 1(3)(1)(e)</p>	<p>1.5 Is a description provided of the policy and legislative context within which the development is proposed including (i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments?</p>		X		<p>See Chapter 5</p> <p>The consideration of policies and plans fails to consider the policy context outside of renewable energy. This is non-compliant with the Regulations. It is vital for a holistic understanding of the overall development and policy context. The competing policy objectives for example eco-tourism need to be considered against the renewable energy context. This is not done which provides a biased perspective in favour of the proposed development.</p> <p>Although reference is made to the broad alignment with objectives within the local IDPs, no mention is made of the local SDFs and what they recommend as future land use for the particular area. The SDFs are considered key strategic planning instruments to be considered in any environmental assessment, and one would have expected these plans to be included and discussed. Moreover, conservation and eco-tourism policies and plans are not well considered.</p>	
<p>GNR 982 Appendix 1(3)(1)(r)</p>	<p>1.6 Is an undertaking provided under oath or affirmation by the EAP in relation to: the correctness of the information provided in the reports; (ii) the inclusion of comments and inputs from stakeholders and I&APs; (iii) the inclusion of inputs and recommendations from the specialist reports where relevant and (iv) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties</p>			X		<p>Conformance can only be reviewed once the public participation process has been concluded.</p>
<p>Review Area 2: Need and desirability</p>						
<p>GNR 982 Appendix 1(3)(1)(r)</p>	<p>2.1 Is a motivation provided for the need and desirability of the proposed development?</p>		X		<p>See Chapter 6</p>	<p>The need and desirability is extensively discussed against the need for and justification for renewable energy in South Africa, which is not disputed. However, need and desirability need to be considered more broadly against the need and desirability for other competing land uses and/or developments such as eco-tourism – to allow decision makers to compare and make informed decisions. The energy</p>

									context is considered in isolation, and this creates a biased perspective in favour of the proposed development.
Need and Desirability Guideline, 2017	2.2	Is the need and desirability of the activity motivated in the context of the preferred location?					X		See Chapter 6 No mention is made of the relevant SDFs, which provides a critical strategic planning perspective linked to the IDPs. Moreover, strategic conservation planning documents are also not consulted to understand the implications for protected areas and game farms.
Need and Desirability Guideline, 2017	2.3	Is the need and desirability of the activity motivated in the context of the timing of the development?					X		See Chapter 6 The timing of the development in relation to particular policy objectives such as the IRP 2019 is discussed. It is not disputed that the need for additional energy generation is an important national priority at this present time. However, the development of eco-tourism should also be acknowledged as a current key development sector nationally, and in the Eastern Cape specifically.
Review Area 3: Alternatives									
GNR 982 Appendix 1(3)(1)(g)	3.1	Is a motivation provided for the preferred site, activity and technology alternative?					X		See section 3.3 The identification of the preferred site is based on pre-assessment actions in the form of a technical feasibility and environmental screening process. Many critical decisions seemed to have been made based on the screening process (number and placement of turbines), which merely feeds unchanged into the BA process and has also not been subject to public participation. This has curtailed the role that the assessment plays in this process.
GNR 982 Appendix 1(3)(1)(h)	3.2	Is a full description provided of the process followed to reach the proposed preferred alternative within the site?					X		See previous point.
GNR 982 Appendix 1(3)(1)(h)(i)	3.3	Are details provided of all the alternatives considered?					X		See Chapter 3 The claim that fundamental alternatives need not be considered is unconvincing. If the EAP's line of argumentation is followed, then no renewable development project could be challenged in terms of its desirability. Surely, the consideration of fundamental alternatives (as explained in this assessment) must form part of the assessment. This point also related back to criteria 2.1 and 2.2 above.

GNR 982 Appendix 1(3)(1)(h)(ii)	3.4 Are details provided of the public participation process undertaken in terms of Reg 41, including copies of the supporting documents and inputs?							X	The public participation process can only be reviewed once the draft BA has been circulated for comment.
GNR 982 Appendix 1(3)(1)(h)(iii)	3.5 Is a summary provided of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them?							X	The public participation process can only be reviewed once the draft BA has been circulated for comment.
GNR 982 Appendix 1(3)(1)(h)(iv)	3.6 Are the environmental attributes associated with the alternatives described focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects?						X		See criteria above
GNR 982 Appendix 1(3)(1)(h)(v)	3.7 Are the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts can be reversed; may cause irreplaceable loss of resources; and can be avoided, managed or mitigated?						X		The alternative assessment is very limited and different alternatives were not individually assessed and compared. Basically a single alternative was assessed and this is problematic.
GNR 982 Appendix 1(3)(1)(h)(vi)	3.8 Is the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives described?						X		See criterion 3.7
GNR 982 Appendix 1(3)(1)(h)(vii)	3.9 Are the positive and negative impacts described that the proposed activity and alternatives will have on the environment and on the community, focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects?						X		See criterion 3.7
GNR 982 Appendix 1(3)(1)(h)(viii)	3.10 Are the possible mitigation measures described including the level of residual risk?						X		Residual impacts are dealt with but not residual risks. It is not clear from the reports what the difference is.
GNR 982 Appendix 1(3)(1)(h)(ix)	3.11 Is the outcome of the site selection matrix provided?						X		No – site selection was based on an environmental screening process which is not well described and which took place before the BA assessment process.
GNR 982 Appendix 1(3)(1)(h)(x)	3.12 Was a motivation provided if alternatives were not considered?						X		See section 3.2 The motivation provided is unconvincing.

Review Area 4: Significance and Mitigation

GNR 982 Appendix 1(3)(1)(i)(i)	4.1 Is a full description provided of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including- (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process?			X	See Chapter 10 Impacts are not considered throughout the life of the activity. Decommissioning impacts considered similar to the construction phase so not assessed – p165. Surely they are not similar i.e. waste management and rehabilitation requirements forms part of decommissioning and not construction phase. See Chapter 10
GNR 982 Appendix 1(3)(1)(i)(ii)	4.2 Is an assessment done of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures?		X		The assessment is not considered adequate. The main weakness relates to the lack of avoidance mitigation options through alternative turbine siting to deal with impacts related to for example visual and biodiversity impacts.
GNR 982 Appendix 1(3)(1)(i)(i)	4.3 Is an assessment conducted of each identified potentially significant impact and risk, including cumulative impacts?		X		See Chapter 11 The assessment is not considered adequate. It is unclear how the scope of the cumulative impacts was determined. It seems that the combined impact of two different BA applications was used to determine cumulative impacts. Which begs the question why two separate BAs were conducted in the first place. If this was to be done (i.e a single BA for both Fronteer and Wind Garden) – which is what is required by the Regulations, then the cumulative impact scope will have to be broader. No justification from an environmental assessment perspective is provided for doing two separate BAs.
GNR 982 Appendix 1(3)(1)(i)(ii) to (vii)	4.4 Is an assessment conducted of each identified potentially significant impact and risk, including- (i) the nature, significance and consequences of the impact and risk; (ii) the extent and duration of the impact and risk; (iii) the probability of the impact and risk occurring; (iv) the degree to which the impact and risk can be reversed; (v) the degree to which the impact and risk may cause irreplaceable loss of resources; and (vi) the degree to which the impact and risk can be avoided, managed or mitigated?		X		See Chapter 10 Many of the significance ratings are questionable for example: <ul style="list-style-type: none"> • Socio-economic impacts: Low significance rating (16) for impacts on the eco-tourism industry. • Visual impacts: No avoidance considered in terms of mitigation options such as number and siting of turbines. • Biodiversity impacts: Turbines placed on CBAs and ESAs and questionable 'limits of acceptable change' thresholds (for example Table 9.1 in Fronteer BA) The unreasonably low significance ratings creates a biased perspective in favour of the proposed development
GNR 982 Appendix 1(3)(1)(m)	4.5 Are the proposed impact management objectives, and the impact management outcomes recorded for the development for inclusion in the EMPr (based on the assessment, and where applicable, impact			X	EMPr not reviewed

	management measures from specialist reports?)									
GNR 982 Appendix 1(3)(1)(o)	4.6 Is a description provided of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed?	X						X		See section 7.6 The discussion of assumptions and limitations are unconvincing. There are many more assumptions to be read with the recommendations in Chapter 12. These assumptions and limitations need to be expanded and moved to Chapter 12 so that the decision makers can fully understand and relate them to the recommendations.
GNR 982 Appendix 1(3)(1)(q)	4.7 Where the proposed activity does not include operational aspects, is the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements described?							X		Not applicable - the activity includes an operational phase
GNR 982 Appendix 1(3)(1)(s)	4.8 Are details provided of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts?	X								See comments under criterion 4.1
Review Area 5: Environmental Impact Statement										
GNR 982 Appendix 1(3)(1)(k)	5.1 Is a summary provided of the findings and impact management measures identified in any specialist report and an indication as to how these findings and recommendations have been included in the final report?	X				X				See Chapter 12 A summary is provided. However, the weaknesses described under Review Areas 2, 3 and 4 are reflected.
GNR 982 Appendix 1(3)(1)(l)(i)	5.2 Is an environmental impact statement provided which contains a summary of the key findings of the environmental impact assessment?	X				X				See Chapter 12 A summary is provided. However, the weaknesses described under Review Areas 2, 3 and 4 are reflected.
GNR 982 Appendix 1(3)(1)(h) (xi)	5.3 Is a concluding statement provided indicating the preferred alternatives, including preferred location of the activity?						X			See Chapter 12 Alternatives are weakly dealt with – see results of Review Area 3.
GNR 982 Appendix 1(3)(1)(l)(ii)	5.4 Is an environmental impact statement provided which contains a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers?				X					See Chapter 12 A map is provided that overlays the sensitive areas with the proposed development location.

GNR 982 Appendix 1(3)(1)(l) (iii)	5.5 Is an environmental impact statement provided which contains a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives?			X		See Chapter 12 The weaknesses in the BA report relates to the review results for Review Areas 2 and 3
GNR 982 Appendix 1(3)(1)(p)	5.6 Is a reasoned opinion provided as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that Authorisation?			X		See Chapter 12 The weaknesses in the BA report relates to the review results for Review Areas 2 and 3. Conditions are not clearly articulated or justified in the statement.
GNR 982 Appendix 1(3)(1)(n)	5.7 Are any aspects which were conditional to the findings of the assessment (raised by either by the EAP or specialist) included as conditions of authorisation?			X		See Chapter 12 The weaknesses in the BA report relate to the review results for Review Areas 2 and 3. Conditions are not clearly articulated or justified in the statement.
GNR 982 Appendix 1(3)(1)(t)	5.8 Is information provided as specified by the competent authority?				X	Not aware of any specified information required by the competent authority.

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ANNEXURE A: CV SUMMARIES OF REVIEWERS

CURRICULUM VITAE



Personal Details:

Name: Prof Francois P Retief
Date of birth: 8 Nov 1974
Nationality: RSA
Experience: 20+ years

Position:

Professor in Environmental
Management with
specialisation in Environmental
Assessment

Director: Global Green
Environmental Consultants

Highest Academic Qualification:

PhD – University of
Manchester, UK



NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOM CAMPUS

Main Qualifications:

- **2005: Doctor of Philosophy (Ph.D), School of Environment and Development, University of Manchester, United Kingdom**
- 2001: Masters in Environmental Management (M.EM), University of the Free State (UFS), South Africa
- 1998: Masters in Town and Regional Planning (M.TRP), University of the Free State (UFS), South Africa

EXPERIENCE

Prof Retief completed his PhD at the University of Manchester on the quality and effectiveness of environmental assessment. He then joined the North West University as senior lecturer and was promoted to Associate Professor in 2008. Between 2009 and 2011 he served as Subject Chair for Geography and Environmental Management and between 2012 and 2015 as the first School Director of the newly established School of Geo and Spatial Sciences. In March 2015, he was promoted to Professor and took up a new position within the Research Unit for Environmental Sciences and Management responsible for managing taught master's programmes.

He has contributed numerous peer reviewed papers (65), book chapters (25) and conference presentations (>80). Recently he co-authored the 2018 edition of the 'Environmental Management in South Africa' handbook. Prof Retief has a 'C1' research rating from the NRF and a Scopus *h-index* of 20. To date he has successfully supervised >50 Masters and PhDs. Prof Retief serves on the editorial boards of all three leading international environmental assessment journals (EIA Review, JEAPM and IAPA) and between 2009 and 2014 he also acted as co-editor of one of these journals namely, Impact Assessment and Project Appraisal (IAPA). He received both the 'Outstanding Service to IAIA Award' in 2015 and the 'IAIA Individual Award' in 2020 in recognition of his sustained contributions to the theory and practice of impact assessment at an international level. Overall, Prof Retief is acknowledged as a leading scholar and researcher in the field of environmental assessment.

In terms of EIA practice he has, as director of 'Global Green Environmental Consultants' conducted >100 EIAs under different South African EIA regimes since 1999. During this time, he has also externally reviewed numerous high profile EIAs against international best practice, minimum legal requirements and IFC and World Bank Standards. In 2018 he was appointed by the Department of Performance Management and Evaluation (DPME) and the then Department of Environmental Affairs (DEA) to lead the national EIA System evaluation.

CURRICULUM VITAE



Personal Details:

Name: Me Charlotte Cilliers
Date of birth: 14 Oct 1987
Nationality: RSA
Experience: 8 years

Position with Global Green:

Director

Highest Academic Qualification:

Masters in Environmental
Management – *cum laude*



GLOBAL GREEN
Environmental Consultants

Main Qualifications:

- 2016: Masters in Environmental Management, North West University, Potchefstroom campus – *cum laude*
- 2012: BSc Town and Regional Planning, North West University, Potchefstroom campus

Professional Registrations:

- EAPASA (Reg. No.2019/1418)

EXPERIENCE

Me Cilliers started her professional career as a town and regional planner. She has been working in the field of environmental assessment since joining Global Green Environmental Consultants in 2012. Under the supervision of Prof Retief, she completed her Masters in Environmental Management (*cum laude*) at the North West University (NWU) focussing on the capacity of local government to deliver on their environmental management mandate.

Over the past five years she has been involved in a wide range of impact assessments in the following sectors:

- Housing,
- Agriculture,
- Energy,
- Bulk services infrastructure,
- Waste management,
- Tourism.

She has also been involved in EIA external review projects and therefore is experienced in EIA evaluation and review methodologies.